

Serial No. 10/099,009

-2-

PU000173

Listing of Claims:

Claims 1-18 (canceled)

Claim 19. (presently amended) A method of reducing contouring in a liquid crystal on silicon (LCOS) display comprising individually controllable pixels, the display including at least one gamma correction table having a corresponding table resolution, the method comprising the steps of:

providing an input signal comprising successive pictures to be displayed on said display;

applying a first set of gamma correction values to a first picture portion of each of said successive pictures to provide corresponding gamma corrected first picture portions for each successive picture;

applying a second set of gamma correction values to a second picture portion of each of said successive pictures to provide corresponding gamma corrected second picture portions for each picture;

combining said gamma corrected first picture portion with said gamma corrected second picture portion to provide a picture comprising pixels having brightness levels determined by the combined picture portions;

reducing the number of said pixels having repeated brightness levels in successive pictures without changing said table resolution by applying steps of table dithering and input dithering.

Claim 20. (previously presented) The method of claim 19 wherein the reducing step is carried out by applying a dither to said input signal.

Serial No. 10/099,009

-3-

PU000173

Claim 21. (previously presented) The method of claim 19 wherein the reducing step is carried out by applying a dither to one of said first and second sets of gamma correction values.

Claim 22. (previously presented) The method of claim 19 wherein the reducing step is carried out by the steps of:
 applying a dither to said input signal; and
 applying a dither to one of said first and second sets of gamma correction values.

Claim 23. (previously presented) The method of claim 19 wherein further comprising the steps of:
 providing reference gamma correction values; and
 modifying said reference values to provide said first set of gamma correction values.

Claim 24. (previously presented) The method of claim 23 wherein said the modifying step is carried out by a step of changing least significant bits of said reference gamma correction values to provide said first set of gamma correction values.

Claim 25. (previously presented) The method of claim 20, wherein the dithering step results in a picture having a quincunx dither pattern.

Claim 26. (previously presented) The method of claim 25 wherein said quincunx dither pattern in said picture is alternately inverted and not inverted.

Claim 27. (previously presented) The method of claim 19 wherein said first picture portion is a positive picture

Serial No. 10/099,009

-4-

PU000173

portion and said second picture portion is a negative picture portion.

Claim 28. (previously presented) The method of claim 19 wherein said second picture portion is a positive picture portion and said first picture portion is a negative picture portion.

Claim 29. (previously presented) The method of claim 19 wherein said at least one gamma correction table is a primary color gamma correction table.

Claim 30. (previously presented) The method of claim 29 wherein said primary color is selected from the group comprising red, green and blue.

Claim 31. (previously presented) The method of claim 19 wherein said input signal is an 8-bit signal and said gamma correction table has a resolution of 10 bits.

Claim 32. (currently amended) A system for reducing contouring caused by repeated displayed pixel brightness levels in a liquid crystal on silicon (LCOS) display, the system comprising:

- a receiver for receiving an input signal comprising successive pictures, each of said successive pictures having a corresponding intended brightness level for each pixel;

- a display for displaying each of said successive pictures with a displayed pixel brightness level for each pixel;

- a system for transferring each of said pictures from said receiver to said display such that said displayed brightness levels of said pixels approximately matches said intended brightness levels of said pixels for each successive picture;

Serial No. 10/099,009

-5-

FU000173

said system characterized by a transfer function relating said displayed pixel brightness levels to said intended pixel brightness levels, said transfer function including an imager gamma;

said system including an imager coupled to a gamma correction unit to cause said imager to operate in accordance with a gamma corrected transfer function;

said gamma corrected transfer function having associated therewith a number of repeated displayed brightness levels corresponding to different intended brightness levels;

a dithering unit applying at least a table dither and an input dither ~~coupled to said system~~ to reduce the number of said repeated displayed pixel brightness levels corresponding to different intended pixel brightness levels.

Claim 33. (previously presented) The system of claim 32 wherein each of said successive pictures comprises a positive picture portion and a negative picture portion and wherein said gamma correction unit applies a first gamma correction to said positive portion and a second gamma correction to said negative picture portion wherein said first gamma correction differs from said second gamma correction so as to reduce the number of repeated displayed pixel brightness levels associated with said gamma corrected transfer function.

Claim 34. (previously presented) The system of claim 32 wherein said dithering unit is coupled to said receiver and to said gamma correction unit to apply a first dither to said input signal so as to reduce the number of repeated displayed pixel brightness levels associated with said gamma corrected transfer function.

Claim 35. (previously presented) The system of claim 31 wherein said gamma correction unit comprises a primary color

Serial No. 10/099,009

-6-

PU000173

gamma correction table, said primary color selected from the group comprising red, green and blue.